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AUTHOR	Engel, Monica; Pulley, Ronda; Rybinski, Amanda
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ABSTRACT

A program was designed, as an action research project, to increase the retention of information through the use of alternative methods of instruction. The targeted population consisted of primary and intermediate students in a community in a suburb of Chicago, Illinois. There had been a decline in standardized test scores, the increasing pressure was being put on school districts to increase test scores, leading to a focus on test items for teachers, rather than general content knowledge. A review of solution strategies suggested in the professional literature and an analysis of the setting resulted in the selection of alternative assessments incorporating lessons built on cooperative learning and performance tasks supplemented by checklists, demonstrations, investigations, learning logs, and reflections. Evidence supported the finding that the use of authentic assessment activities helped enhance the retention process. Authentic assessment tools and activities created more independence and assisted the students in developing their own learning. The transfer of knowledge became evident as students worked within the curriculum area. Data show that the authentic assessments helped students do well on standardized tests, and that they are a powerful tool for lifelong learning. An appendix contains the teacher survey from the study. (Contains 3 figures and 24 references.) (SLD)

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AUTHENTIC ASSESSMENT: IT REALLY WORKS

Monica Engel
Ronda Pulley
Amanda Rybinski

An action Research Project Submitted to the Graduate Faculty of the

School of Education in Partial Fulfillment of the

Requirements for the Degree of Master of Arts in Teaching and Leadership

Saint Xavier University & SkyLight

Field-Based Master s Program

Chicago, Illinois

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TITLE: AUTHENTIC ASSESSMENT: IT REALLY WORKS

AUTHORS: Monica Engel, Ronda Pulley, and Amanda Rybinski

DATE: May 2003

ABSTRACT

This study describes a program designed to increase the retention of information through the use of alternative methods of instruction. The targeted population consisted of primary and intermediate students in a community located in a small suburb of Chicago. The status of family incomes ranged from medium to high levels. Evidence for the existence of the problem included student performances, worksheets, and assessment of student quarterly grading period averages to determine achievement levels.

Analysis of probable cause data reveals that there has been a decline in standardized test scores. An increased amount of pressure has been placed on school districts to increase test scores. The focus for teachers seems to be centered on test items rather than general content knowledge. This may lead to depthless instruction and lack of student interest. Parents are familiar with more traditional instruction, testing, and letter grade report cards. Many parents are uneasy about authentic assessment, which focuses on the application of skills rather than just the mastery of basic skills. Society demands that students graduate with the abilities to think critically, analyze, and problem solve in everyday situations. The goal of authentic assessment is to prepare students to meet these expectations.

A review of solution strategies suggested by the professional literature, combined with an analysis of the setting of the problem, resulted in the selection of alternative assessments incorporating lessons built on cooperative learning and performance tasks supplemented by checklists, demonstrations, investigations, learning logs, and reflections.

The evidence supported the use of authentic assessment activities helped to enhance the retention process. Authentic assessment tools and activities created more independence and assisted the students in developing their own learning. The transfer of knowledge learned became apparent as students worked within the curriculum areas. As a result of these activities an increase in the students recognition of content in other curriculum areas was observed. The data collected indicated that authentic assessment activities enhanced the students ability to do well on standardized tests. Performance tasks involving hands-on activities were completed before the standardized tests, which enabled the students to apply those skills to standardized tests.

The researchers conclude that authentic assessment is a powerful tool in preparing students for life long leaning.

SIGNATURE PAGE

This project was approved by

John B. Mulin, Ed.D.
Advisor

Marilyn Twining Ed. S.
Advisor

Beverly Gulley
Dean, School of Education

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

Some students in the targeted second and fourth grade classes in a small suburb of a major Midwestern city exhibited a lack of retention of information in selected curriculum areas that interfered with their academic growth. Evidence for the existence of the problem included student performance and demonstrations, student worksheets, and assessments.

Immediate Problem Context

Students of the targeted class attended an elementary school with an enrollment of approximately 580 students in kindergarten through fifth grade. Of these students, 62.7% were Caucasian, 24% were African American, 7.3% were Hispanic, and 6.4% were Asian or Pacific Islander. According to the 2001 Illinois Report Card, 8.8% of the students came from low-income families and 0.2% of the students were limited-English proficient. The school had an attendance rate of 95.7%, a student mobility rate of 12%, and a chronic truancy rate of 0.4%.

The professional staff for the elementary school was 63. Of the 63 staff members, there were 19 academic classroom teachers, 5 special education teachers, 7 full-time

aides, and 5 part-time aides. There were four special teachers, who taught physical education (P.E.), library, art, or music. The staff also included four full-time and seven part-time support staff members, including a school psychologist, speech clinician, social worker, and a resource teacher. There was also a principal, an assistant principal, three secretaries, a nurse, and a full-time custodian. The average teaching experience was 18 years, and the average salary was $50,474. Approximately 70% of the certified staff held a master s degree.

The school was built in August of 2001, and was situated in the middle of a growing residential area. There were a total of 26 classrooms for special education and kindergarten through fifth grade. The learning media center (L.M.C.) was centrally located, and the building had four wings branching off in each direction from the L.M.C. A computer lab was located off of the L.M.C. Each of the color-coded wings housed a resource room, storage rooms, and washroom facilities. In the main hallway next to the office there was an art and music room. The gymnasium and cafeteria were located in the opposite direction of the classrooms, separated by security doors where students entered and exited for arrival and dismissal.

The program for the school included a school day of 6 hours and 20 minutes. Teachers were responsible for teaching the core subjects (language arts, mathematics, science, social studies, health). One 30-minute period per day was for a special subject (art, music, L.M.C., P.E.). There was a 35-minute lunch and recess period. Recess was outside on the black top or playground. Many of the children received special services throughout the day for speech, Reading Recovery, resource, Rainbows, social work, English as a Second Language (ESL), vision and hearing, and occupational and physical

therapy. The school had two self-contained special education classes, four sessions of early childhood classes, and two sessions of developmental kindergarten classes. Some of these children were mainstreamed into the regular education program.

There were several activities offered after school. There was an intramurals sports program offered for third through fifth grade. Also for grades 3-5, there was a Technology After School Club (T.A.S.C.). For the primary grades, first and second, there was the Early Reading Program (E.R.P.). A before-and-after-school daycare was provided for the students who attended school.

There were several committees of teachers within the school. There was a principal advisory committee (PAC), which consisted of principal, and a grade level teacher or representative from each grade level that discussed issues brought up at a principal s meeting. There was the Student Referral Team (SRT), which consisted of the assistant principal, social worker, psychologist, resource teacher, speech clinician, nurse, classroom teacher, and parents of student who needed assistance. The team made recommendations or intervention suggestions for the child s academic or behavioral issues. There were four school improvement plan (SIP) teams. Those teams were made up of different grade level teachers and the principal. SIP Team 1, focused on student improvement in overall assessments. SIP Team 2, focused on student improvement in reading and writing. SIP Team 3 focused on student improvement in mathematics. SIP Team 4, focused on safety within the building and school grounds. The Red Ribbon Committee consisted of teachers and aides who planned drug free activities for one week in October. The Parent Appreciation Committee consisted of teachers who planned a thank you get together for parents who volunteered throughout the year.

The building had received the Architectural Award for Building Design. It also was the first building to be built in the district after 20 years.

There were some concerns for this school. The school district and the village collaborated to build a playground. The continued growth in the area presented a concern because class sizes were increasive. There was an addition built onto the school in January of 2000 to accommodate the growth. The temperature in the building was rarely comfortable; it was either too hot or too cold.

Surrounding Community

The community surrounding the school was located approximately 30 miles southwest of a large metropolitan city. Most of the dwellings were single-family homes; however there were a few apartment buildings and some senior housing. The median home value of a single family home was $152,500. The majority of the population owned their own residences. There were approximately 60,000 residences. The racial ethnic background was 70% Caucasian, 15% African American, 6% Hispanic, and 4% other ethnic groups. The median age of the population was 31 years of age, with 81% married and 19% single or single parents.

The community consisted of residential, retail, commercial, and industrial properties. There were a number of recreational activities that included a park district, water park, ice rink, and parks in each subdivision.

Due to the rapid growth in the community, traffic was a major issue. The number of stoplights was increased. Neighborhood Watch programs also grew. Overcrowding in the school prompted a referendum to alleviate the increase in school enrollment. The

latest reports showed that crime decreased; however, it was still a major concern, especially gang activity.

National Context of the Problem

The quality of education children receive in this country has long been a concern of many Americans. To ensure that children are learning all they can, a standard way of testing was developed. Many people perceive that the testing process is subjective, and may not be a true indicator of knowledge learned because the tests may be biased. Many educators recognize that there are alternative ways of assessing children s learning.

Traditional assessment often measures whether the student can recall or recognize information or complete paper and pencil activities to show that material is learned. This process limits the student s expression of knowledge (Wiggins, 1990). Students often are not given the opportunity to explain their reasoning, and some tests ignore other important attributes of learning such as interest, personal and social needs, learning styles, and social values (Wisconsin State Reading Association, 1990).

Standardized assessments were created to permit comparisons among test-takers. Standardized tests are designed to measure student achievement; however, many test items may not be related to what is taught in school. Many times test items involve matching curriculum content, rather than involving higher order thinking questions.

The socio-economic status of a child s family could influence the test answers chosen by a child. Many items measure the verbal, quantitative, or spatial aptitudes that children inherit at birth (Popham, 2001). Many students of low income families have limited childhood experiences.

Many standardized tests are used to compare schools and educators to see which are the most effective. In addition, these tests often affect the promotion of students, are used for the selection of students for higher-level programs, or for improving instruction in the classroom. As a result, many educators teach to the test (Bowers, 1989).

Typically, standardized tests are administered in large group settings. Such test administration does not allow for factors such as students impulsive behavior, not understanding test directions, or using poor reasoning skills. These test situations often do not allow students to have test questions clarified. Taking the standardized test tends to favor students who can sit for long periods of time and concentrate on paper and pencil activities. The active student may be at a disadvantage in this situation (Wisconsin State Reading Association, 1990).

A move towards more authentic tasks and outcomes is necessary. Alternative ways of assessing students, such as authentic assessment, have been developed to meet that need. Authentic assessment aims to evaluate students abilities in real world contexts (Authentic Assessment Overview, 2001). Students learn how to apply their skills to authentic tasks and projects. Authentic assessment requires students to perform intellectual tasks based on acquired knowledge. Through a wide variety of tasks students are able to justify answers, conduct research, perform experiments, and complete projects (Wiggins, 1990).

While it is clear that schools should be held accountable for educating children, how teachers measure that knowledge may be questionable. Society needs to demand that a child show growth over a period of time, and not just reach above average status. Meaningful learning is reflective, constructive, and self-regulated. The children of today

need to take the information learned, interpret it, and relate it to other areas. It is important to measure whether students can organize, construct, and use information in context to solve complex problems (Dietel, Herman, & Knuth, 1991).

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

Within the targeted second and fourth grades there were many types of evidence that supported the need for more realistic assessment tools. Researchers gathered evidence through student performances, worksheets, and assessments.

A survey was created and distributed by the researchers (Appendix A). The purpose of the survey was to gain an understanding of teacher attitudes toward authentic assessment. Table 1 illustrates that the majority of the teachers were not only uncomfortable; but also not familiar with authentic assessment. Based on teachers comments to the open-ended questions (see Table 2), the researchers concluded that without realizing it many teachers are, in fact, using a form of authentic assessment.

Table 1

Teachers Attitudes Toward Authentic Assessment Expressed as Percentages

As a classroom teacher, I feel comfortable	1	2	3	4	5
In using Authentic Assessment in your classroom	12.5	12.5	25	37.5	12.5
Giving grades using Authentic Assessment	12.5	25	12.5	37.5	12.5
Using rubrics	12.5	12.5	12.5	25	37.5
Designing rubrics	12.5	0	50	12.5	25
Assigning projects	12.5	12.5	25	25	25
Using portfolios	25	25	12.5	12.5	25

Note: Using a scale from 1 to 5 where 1 means not at all comfortable and 5 is extremely comfortable , please rate your comfort level.

Table 2

Teachers Comments Towards Authentic Assessment

---

1. What does Authentic Assessment mean to you? (Please be specific)

ˆ I see it as something that truly measures what has been taught. It can be in any form from observations, discussion, and participation to written test. If you are measuring reading, they should read for information. If measuring writing. Rubric needs to be employed.

ˆ I m not sure — haven t heard of it.

ˆ Evaluating/ assessing students with material they are successful at rather than too difficult to attempt.

ˆ Assessing students without paper / pencil. Having students actually do an activity.

ˆ Using something besides paper and pencil tests to assess learning.

ˆ Any kind of assessment that is an alternative to standardized testing.

ˆ Using a test (oral or written) that directly assesses our curriculum — not a standardized test such as CTBS or ISATS, etc.

8. If you are using Authentic Assessment how are you implementing it in your classroom?

ˆ Every assignment has a rubric of sorts from 85% correct on a set of math problems to a detailed performance definition in a science project or the writing rubric I use that changes with the focus of the material I wish to convey.

ˆ Running records in Guided Reading. Rubrics in projects and writing.

ˆ During centers, I am watching / assessing my students on their independence and performance on a certain task.

ˆ rubrics and projects

ˆ I do more performance assessments - plays, acting out or drawings.

ˆ Assuming I know what it is, I use projects, oral reports, class discussion besides written quizzes and tests.

What we concluded from the results is just a few people understood the components of authentic assessment. Many were unsure of themselves and nervous to write down what it means to them.

Past experiences have proven to the researchers that some children have difficulty transferring and retaining information. Students are able to complete basic recall tasks but when asked to transfer the skill into higher-level thinking they possess difficulty. This problem has been evident in basic grammar skills into paragraph writing, applying math facts into problem solving situations, and answering recall questions in literature to inferences and drawing conclusions. Students appear to have difficulty relating personal experiences to literature experiences. Spelling is another area of concern. Students are able to memorize words for a test, but some do not retain the information in day-to-day writing.

Probable Causes

With the decline in standardized test results there has been increased pressure placed on school districts from community, state, and national sources to increase students test scores. This has brought about the need for revision of the way educators teach and assess students. Many teachers tend to focus their instruction around test items rather than a specific body of content knowledge.

Some educational training sites in school districts have not kept up with the current trends in education. Therefore, insufficient knowledge and ineffective training has put many teachers at a disadvantage. Funding for this type of training is often difficult to obtain, and even if it is obtained there may be time constraints or ineffective trainers.

There is much controversy surrounding the reporting of student achievement. Parents have come to expect the traditional letter system; however that system does not always accurately portray a student s achievement. Letter grades are subjective. What one teacher may consider as A work another may consider as B work. There are few defining guidelines as to what each letter grade represents.

Wiggins (1990) discussed a variety of reasons why assessment should change. Traditional tests assess the student s recall of answers, whereas authentic assessment focuses on higher order thinking skills. Traditional tests are more paper-pencil oriented, and authentic assessment allows students to create, perform, or apply what they know. It is the form of the traditional test, not the content, that has come under question. Teachers and students often believe that right answers are more important than justifying one s methods and results. With authentic tasks, students have an understanding of what is expected, and teachers see assessments as useful tools for improving instruction.

Today, understanding the basics is not enough; students also need to think critically in order to face the demands of the world today. Over the last century society has changed from an industrial age to an information age, which requires the ability to access, interpret, analyze, and use information for drawing conclusions. In order to meet the demands of a changing world the content of the curriculum must change, and the format of the assessment must meet these new outcomes (Bond, 1994).

Teachers must provide a learning environment beneficial to students previous experiences and an environment conducive to a wide range of learning modalities. Educators must provide a variety of assessments, which allow students a chance to demonstrate what they know as well as how to use the information beyond school. As

the student population becomes more diverse, and the curriculum becomes more complex, the assessments must meet the diversity of the population (Darling-Hammond & Snyder, 2000).

Authentic assessment gives a picture of the whole child. Too often, the sole purpose of a school district is to increase test scores. Assessment should aid the teachers, parents, and students in planning what comes next. Assessment should track students growth over time so that the students can assess their own progress. Inadequate tests should be replaced with authentic performance tasks (Authentic Assessment at the Foundations School, 2002). As the world becomes more connected, educators must meet the demands of the business world. Children must know how to solve, think critically, and work together to survive the next century.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

In the schools of today the emphasis has changed from recall of knowledge to the application of knowledge. Students need to be able to think critically, make inferences, and have input into their own learning to survive in the continuously changing world. By placing emphasis on application students have a greater opportunity to transfer knowledge into other content areas.

There is a long tradition in this country, dating back to the 1930s, that high scores demonstrated by students on standardized tests meant an effective educational system. School improvement plans have been based on these scores. In order to maintain an upward trend many different types of tests were developed. The 1950s and 1960s brought about norm-referenced tests and districtwide testing programs to achieve local accountability. The 1970s brought about statewide testing and in the 1980s a national assessment program was developed. Each layer of testing was developed to provide accountability for the school system (Stiggins, 2002). When standardized tests scores declined, communities demanded an increase in those scores. This brought about great pressure on school districts and teachers to better prepare students for standardized tests.

More and more time is spent preparing students for these tests, which often emphasize memorization and recall of facts instead of higher order thinking skills (Dietel et al., 1991).

Robinson and Carver (as cited in Bowers, 1989) suggested that advocates of standardized testing believe these tests provide an efficient and fair way to hold students and teachers accountable. Standardized testing provides comparative scores for individuals so placement decisions can be made, points out the strengths and weaknesses of students to help make future course selections, and gives scores that assess how effective a school district is. Unfortunately, because of these reasons, teaching to the test has become commonplace. When students take a standardized test, the goal may be to disaggregate the test results. Answers to standardized test items do not always encourage collaboration, interpretation, or reflection. Instead, emphasis is usually placed on short-answer, multiple-choice questions.

According to Wiggins (1990), traditional tests recall information learned out of context. They are often simplistic and limited to paper and pencil activities. Authentic assessment tools offer students a full array of tasks to accomplish. The tasks encourage collaboration and simulate real world activities. Students know performance objectives in advance. This provides students with clarity about what is expected, and teachers see the assessment as a useful tool in providing instruction. Another benefit to authentic assessment is that it provides parents with a product to view and evidence of a student s abilities.

When using traditional assessment, the curriculum often determines the assessment. Assessments are administered to determine if objectives have been learned.

On the other hand, authentic assessment drives the curriculum. Teachers decide which tasks need to be accomplished; then a curriculum is developed to help students accomplish those tasks. By using authentic assessment, students perform tasks that require analysis and application of what has been learned. These tasks allow students a choice in what is presented to prove mastery. Authentic assessment tasks provide direct evidence of proficiency by enabling students to perform meaningful tasks (Mueller, 2002).

Zemelman, Daniels, and Hyde (1998) suggested that authentic tasks help students set goals, monitor their work, and evaluate their efforts. When teachers interview students and provide learning logs, students get the opportunity to reflect on their own work and review with their teachers the progress made and to provide the teachers with formative evaluation of a process that compares students to themselves and not to other students.

Today s teachers are struggling with the age-old battle of traditional grading. Many teachers in the regular education classroom are teaching students with wide ranges in IQs and abilities. Incorporating different instructional modalities and differentiating the instruction to meet these students needs also requires alternative methods of assessment. As more teachers realize the need for authentic assessment the dilemma of grading students arises. As long as state guidelines are followed, teaching styles can vary from teacher to teacher, but when it comes to grades, teachers are often confined to the traditional letter grade. Society and parents demand a high quality of education for their children, but they seem satisfied with letter grades to evaluate that quality. What do these grades really mean? The students report cards should provide specific data informing

parents of the students achievement, not just ambiguous grades that do little to offer details of a child s strengths and weaknesses.

Academic achievement is broken up into three categories: (a) subject-specific content, (b) thinking and reasoning skills, and (c) general communication. Subject-specific content refers to the actual concepts covered. Interpretations of textbooks and styles of teaching vary from teacher to teacher. As a result, standards have been developed to provide consistency among teachers. In order for mastery of content to occur students need the ability to think about a subject. Thinking and reasoning skills should be thought of as important factors in grading academic achievement.

Students need to be able to communicate their ideas in written and oral form. In addition to these two forms students should be able to communicate in other media forms such as video presentations. These forms of communication should be taken into consideration when grading academic achievement. It is important to report a child s effort, behavior, and attendance, but this should not be included in the achievement grade (Marzano, 2000).

Educators need to make sure the assessment matches the way instruction is provided. Teachers need to give work based on students current needs. Consistent, meaningful feedback, and teacher-student conferences need to be provided. Students should be able to approach learning opportunities in a variety of ways. This should allow for the differences in learning styles. For example, some students work best with concrete concepts while others are attracted to the abstract. Together teachers and students should be looking for growth patterns, which should then be reported to parents to convey specific progress (Tomlinson, 2001).

Regular or traditional methods of grading are often subjective and may not provide a thorough picture of a student s progress. Authentic assessment report cards, written in a narrative format, are used to describe students strengths, weaknesses, and growth. This type of reporting is more informative and meaningful than the typical letter grades that are often seen on many traditional report cards. A collection of student work should accompany the report to justify the student s evaluation. Development varies from student to student; hence the grading should reflect the individuality of the student (Dienel, 2002).

One of the major challenges facing educators today is motivating students to want to learn. When using authentic assessment, the educator is doing just that, involving the students in their own learning process; giving them a chance to see where they are and where they need to be. When teaching and assessing by traditional means students are given information to memorize and recall in isolation. There is no link to other subjects or real life situations. In a classroom that uses best practices for teaching and evaluating, teachers are interested in student performance of higher-order activities that incorporate the application of skills or solve problems. The main goal of the assessment is to help students set goals, monitor their own work, and evaluate their own efforts. When differentiating the assessments, the teacher is committed to formative assessments, those that help make instructional decisions about the child, rather than summative evaluations that rank and order a student s ability (Zemelman et al., 1998).

According to Dietel et al. (1991), views of how people learn are changing. It was once thought that learning took place in a systematic, straight-line process. Cognitive psychology suggests something quite different. It suggests that learning takes place in

many directions and at an uneven pace. Conceptual learning should not be delayed until a certain age or until certain basic facts have been mastered. Current research shows that instruction that emphasizes drill and practice in isolation often makes learning more difficult. Students need to be taught how to organize information to make it easier to remember, and then apply those facts to real world problems. When all the information is taught in isolation students have a difficult time applying those skills to real-world situations. Just because there has been acquisition of knowledge does not mean that the knowledge can be applied to solve problems. The current movement towards authentic assessment gives educators the ability to assess students on performance tasks such as portfolios, answering open-ended questions, or performing demonstrations, which provide more meaningful outcomes. This often provides students with the interpersonal skills needed for collaborative work.

Standardized testing has its place in the American education system. If a teacher is looking for ranking, or a comparison among students in a particular age group, then standardized tests can help. However, if the teacher is looking for day-to-day information to make crucial instructional decisions, then alternative means of assessment can be used. Assessments should assist teachers by planning what comes next, track student growth, and motivate learning. Traditional assessment provides an abundance of information that has been used by policy makers. However, these tests often fall short of motivating students to learn. If fact, many traditional tests create high anxiety in learners which may cause poor performance.

Stiggins (2002) suggested there are many benefits to using authentic assessment. To begin with, students become more confident because they can see themselves

succeeding. With this success comes the confidence to continue to take risks. Also students begin to take charge of their own learning, and make decisions that impact their knowledge. Authentic assessment provides several benefits for teachers. As students become more motivated to learn, instructional decisions become easier. There is also a saving of time for the teacher. As the teacher becomes efficient with alternative assessments, the time devoted to the creation of the tasks outside of the classroom should decrease. Parents benefit by seeing greater enthusiasm for learning by the students, and school administrators benefit by meeting accountability standards. Everyone seems to benefit when using authentic assessment.

Designing alternative assessments can be time consuming. It is better for teachers to work together with colleagues to prepare fair and interesting assessments. The advantages are connecting the thinking process to the doing process. There are many approaches to making authentic assessments work in one s classroom. When incorporating the assessments, tasks should be meaningful, engaging, real-life, multistage demonstrations, higher order thinking, and self-evaluating. Teachers might want to ask questions as a guide through the developmental stages, such as:

(a) What should students know?

(b) What skills should the students demonstrate?

(c) What real-life problems involve these skills?

(d) What concepts will be applied?

(e) What are the reasons for assessment?

(f) How will the results be used? (Kerka, 1995, p.3)

These types of questions will help the teacher reflect and help ensure the alternative assessments are student-centered and individualized.

Planning and executing performance-based assessments can be overwhelming for new as well as veteran teachers. Teachers should have a vision, define their purpose, choose an activity (keeping in mind pacing and time allotments), define criteria, create performance rubrics, and assess performance through checklists, anecdotal records, and rating scales. The dedication that is needed to change to alternative assessments is time consuming. Teachers need to alter their thinking and understanding of assessments. The assessments should be anchored to realistic skills and be based on high standards. Teachers should continuously monitor the assessments and keep the content current (Authentic Assessment, 1997).

Educators, students, and administrators must go through growing pains to make the new approaches work. Encouragement is needed to enhance the spirit of change. Teachers must be committed to alternative ways of assessing before change can be expected in the student performance. Due to the fact that the teacher works so closely with the students, the teacher usually knows each student s specific needs. The calls for change come from legislators; however, teachers must buy into the change in order to make it successful in the classroom. Teachers must feel ownership in alternative methods of assessment before students can feel success.

A variety of conditions should exist in order for teachers to change. Administrators need to be supportive. Administrators need to provide staff development to support the teacher s approaches of alternative assessment. Staff development should

center on actual activities rather than theory. Teachers must be provided with time to reflect and collaborate with peers (Zemelman et al., 1998).

Alternative assessments encompass a variety of activities. Each of these activities allows the student to perform at an independent level. Traditional tests are generally in one format and rarely allow for the differences in students learning styles.

Performance tasks usually require a student to carryout a task instead of completing a written test. Students are expected to apply acquired knowledge and use multiple skills to perform a task rather than recognize and recall answers. The tasks are related to real situations that people encounter everyday. According to Lewin and Shoemaker (as cited in Burke, 1999), students should be allowed to choose the task, the task should have a specific scoring guide, the task should be intended for an audience outside the classroom, and the task must be carefully created to measure the stated objectives.

When students demonstrate skills that they have learned, they have a greater chance of transferring the skills to life situations. Gronlund (as cited in Burke, 1999) wrote Although tests can tell us whether students know what to do in a particular situation, performance assessments are needed to evaluate their actual performance skills (p. 81). Alternative assessments allow students to connect knowledge and skills for authentic purposes.

A portfolio is an accumulation of student work that shows a child s progress over an expansive period of time. Vavrus suggested:

> A portfolio is more than just a container full of stuff. It s a systematic and organized collection of evidence used by the teacher and student to monitor

growth of the student s knowledge, skills, and attitudes in a specific subject area. (as cited in Burke, 1999, p. 57).

The purpose of the portfolio determines what tasks should be placed in the portfolio. Students, teachers, parents, and peers many have some input as to what should be placed in the portfolio. Since the portfolio is designed to show growth over a period of time, this could be an excellent artifact for parent-teacher conferences. Concrete examples can be reviewed, instead of trying to review the progress in the abstract. Since the portfolio can easily be interspersed into the curriculum, it requires minimal added effort on the teacher s planning. Portfolios instill a sense of ownership in students, aim to transfer learning responsibility to the students, encourage self-esteem, reduce test anxiety, encourage self-reflecting, provide dialogue between student and teacher, and yield more accurate results than all other assessment techniques. These gains are not automatic; they need to be established into the portfolio scheme.

A graphic organizer is a map that describes important skills such as classifying, sequencing, comparing, and contrasting, and usually incorporates higher-level thinking skills. Graphic organizers help students make their ideas specific and visual, and they allow students to descriptively show their thinking processes. As students work together to complete graphic organizers, they are saying, doing, and teaching others. Graphic organizers focus on key elements, encourage focused discussion, and blend prior information with new information. It is easier to modify graphic organizers for special needs student than to modify traditional tests. There are several types of graphic organizers that are used by teachers: Venn diagrams, KWL charts, chain of events organizers, map minds, compare and contrast webs, and fishbone mapping. Traditional

tests focus on the verbal/linguistic learner and the logical/mathematical learner; graphic organizers are a benefit to the visual/spatial learner. They help students organize their information and retain key ideas (This Week s Topic, 2002).

Learning logs are useful assessment tools that have been used for numerous years. In addition to assessing knowledge, learning logs are used in other curriculum areas combined with reading and writing. In the past, they have been used more often at the junior high and senior high school level; however, they are beginning to be used more often in the elementary grades. Logs may include entries based on mathematical or scientific problem solving, observations, questions, homework assignments, and other types of data. These responses are brief, factual, and impersonal in expression. One of the greatest benefits of learning logs is that students learn to recognize quality work. Teachers have also used journals, in addition to learning logs, for many years. Journals are an alternative to questions and short answers, fill in the blanks, matching, and multiple choice tests. Journals typically flow freely, depend on personal opinions, feelings, and experience. They entail more description, subjectivity, and are lengthier than learning logs (Jones, 1994; Learning Logs, 2000).

During a student interview, a teacher can collect an abundance of important information about individual students. Often talking to young students is the most useful way to find out what they know and feel. A student interview can be very precise, such as a teacher asking a child to describe how to do a particular math problem or it can be general. On a daily basis, students need to be encouraged to participate in oral conversations. Student interviews strengthen communication (Wildemuth, 1984).

Observation checklists are a means for discovering what a student is able to do and not able to do. Observations can be used for an assessment or an evaluation. A checklist can be used to record observable data. Checklists can be used to identify certain skills and behaviors and show areas of concern. Designing meaningful checklists can be time consuming and takes a lot of effort on the teacher s part. After the checklist is developed, it is a quick and easy way to record information (Basics of Authentic Assessment, 2002).

Rubrics can be used to evaluate students responses to any kind of constructed-response item. They are very useful in assessing and evaluating criteria that is usually complex and subjective. A rubric consists of a set of categories, written in narrative form, that describes the essential components of the task. Each category is separated into levels detailing the possible performance. They range from the highest possible performance to the lowest possible performance. A score is assigned to each level. The scores can be assigned from the lowest to the highest, or vice versa. Since the objectives are clearly specific and this is given to the students before beginning the assignment, the students and teacher understand the goal. (Appendix B.)

Teacher-made tests are usually criterion-referenced tests that are in written or oral format. They measure mastery of the material that has been taught to the students. These tests should be prepared before the instruction begins so the teacher can target suitable instructional activities for the students. True-false items, matching items, multiple-choice items, and short response items are all possible objective questions typically included on a teacher-made test. However, the test should include a variety of visual, oral, and

kinesthetic activities, too. Items selected should measure the target objectives. Designing an effective test is not easy and is time consuming (Burke, 1999).

Mueller (2002) summed up the reasons for change by saying students need to learn how to do well on meaningful tasks. Students need to be shown both good and average-to-good models of learning. When students are asked to perform authentic tasks rather than select a response, they are given the chance to show proficiency by doing something of their own choosing. Authentic assessment allows the student a chance to approach a problem from several directions, and authentic assessment provides samples of work, which show mastery. Authentic assessment allows for analyzing and applying what was learned; it shows more direct evidence of learning than traditional tests. Through the use of alternative assessment techniques, educators can assist students in meeting these goals.

The researchers have incorporated lessons built on cooperative learning and performance tasks supplemented by checklists, demonstrations, investigations, learning logs, and reflections.

Project Objectives and Process

As a result of implementing alternative methods of assessment during the period of September 2002 to January 2003, the targeted second and fourth grade students will increase the retention of information in the selected curriculum areas as measured by rubrics, teacher anecdotal records, and checklists.

In order to accomplish this objective, the following processes are necessary:

1. Design rubrics to assess higher-order thinking used in performance based tasks.
2. Develop graphic organizers that require the use of higher order thinking skills.

3. Draft checklists to observe transfer of curriculum connections to real-life situations.

Project Action Plan

The action plan for the research project was designed to include the use of cooperative learning activities, and performance tasks through the use of critical thinking skills. The first four weeks of the school year were used to familiarize the researchers with the target groups and introduce the criteria and expectations for cooperative group learning. The intervention progress started in September 2002 and ended in January 2003.

The researchers designed assessment activities to be utilized by the targeted groups. These activities will be used in the following curriculum activities:

math

science / social studies

reading

Within the math and reading curriculum the researchers will incorporate many alternative activities:

- Cooperative Learning — one activity for 20-30 minutes every other week.
- Performance tasks — assess by rubrics - one per chapter / story
- Learning Logs — two per chapter
- Reflections — weekly

Within the science and social studies curriculum the researchers will incorporate many alternative activities:

- Cooperative Learning — one activity for 20-30 minutes every other week

- Graphic Organizers — weekly
- Investigations — one per chapter
- Performance tasks — one per unit
- Journals — weekly
- Demonstrations — one per chapter

Methods of Assessment

In order to assess the effects of the interventions, checklists will be kept for learning logs, reflections, graphic organizers, and demonstrations. This assessment will be administered approximately two to four times a month. Rubrics will be used to evaluate performance tasks, cooperative learning activities, and investigations. These assessments will be administered with each unit. The teacher-made tests will be given at the end of each chapter or unit, about eight times during the research period.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

Throughout our past teaching experiences we have observed that students have had difficulty retaining information from one grade to the next. This has been noted through student performance and demonstrations, student worksheets, and assessments. We have integrated the use of cooperative learning activities and performance tasks through the use of critical thinking skills.

The research was conducted in a school located in a small suburb of a major mid-western city. The targeted classrooms contained approximately 40 second graders and 30 fourth graders. The students represented a diversity of ethnic groups and income levels ranging from middle to high.

The objective of this project was to improve student retention in targeted subject areas. The goal was to implement a variety of authentic assessment activities in the targeted second and fourth grade classrooms. Within our classrooms we used cooperative learning, performance tasks, learning logs, reflections, graphic organizers, investigations, journals, and demonstrations.

The first few weeks of the school year were spent building the foundations for cooperative learning and modeling of graphic organizers. This progressed into the designing and implementation of rubrics, reflections, and learning logs. The expectations for the intervention period were presented. Social skills needed to be discussed for cooperative learning to be successful. In the fourth grade classroom cooperative groups were randomly selected; however, students in the second grade classrooms were organized by the teacher and grouped with a mixture of abilities. Grouping became an issue in the fourth grade classroom because of class size. With 30 students it was either a lot of groups with small numbers or fewer groups with more students. Space within the classroom also became an issue with larger number of students. Because of these two areas of concern, hallways and resource rooms were utilized. Low numbers in second grade made the activities manageable. We discovered that the reflection process needed to be taught to the students and were modeled by the teacher. Through teacher inquiry the students responses began to improve. Appropriate behaviors during lessons and presentations were also modeled and practiced.

The original plan called for interventions in the following subject areas: math, science, and social studies. Three weeks into the interventions we discovered we were already incorporating many of the activities into additional areas such as health and reading. Therefore, reading and health were included into the project. Within the math curriculum students completed performance tasks in addition to the standardized chapter tests. The performance tasks were completed as planned, one per chapter, but the learning logs and reflections were not completed as often. This was necessitated by time constraints. Checklists were utilized to monitor skill development (Appendix C).

Science, social studies, and health were taught in three-week blocks throughout the quarter. Social studies was taught twice during the intervention period. Since this was our first attempt at authentic assessment, only a performance task was administered for Chapter 1. At the second grade level the task involved the students describing how Americans were alike and different. At the fourth grade level a mock trial was performed. A standardized test was also administered for comparison purposes. In the second chapter cooperative groups were used. Graphic organizers, such as mind maps, T-charts (Appendix D), and Venn diagrams were completed. Again, a performance task and standardized test were completed.

During the three-week science period, cooperative groups were used to gather background knowledge. Students individually completed graphic organizers and learning logs. Examples of graphic organizers used were a mind map, Venn diagrams, and an attribute sort (Appendix E). A checklist was used to assess the learning log. As a culminating activity, the students displayed their knowledge of what was learned by creating a book. A rubric was used to assess this activity. In addition to these assessments a teacher-made test was given at the end of the unit.

As we were teaching reading and health, we discovered that we naturally were incorporating cooperative group lessons and graphic organizers into our assessment. Generating rubrics for assessing became second nature. Many of the activities involved more in-depth vocabulary instruction. An example of a vocabulary assessment was a four-dimensional study (Appendix F). KWLs were used in both health and reading, as well as web activities, story element charts, problem solution charts, and sequencing charts. The jigsaw strategy was used in health.

Presentation of Analysis of Results

When we first started collecting data it was evident that authentic assessment activities were unfamiliar on an independent level. However, as authentic assessment activities became more familiar to the students, we saw the scores were comparable to standardized scores. Eventually the authentic scores surpassed the standardized scores.

In order to assess the retention of knowledge learned, several authentic assessment activities were completed throughout the research period. A comparison was made to show the performance of how students performed on standardized tests versus authentic tasks. These data were aggregated by classes and are presented in Figure 1.

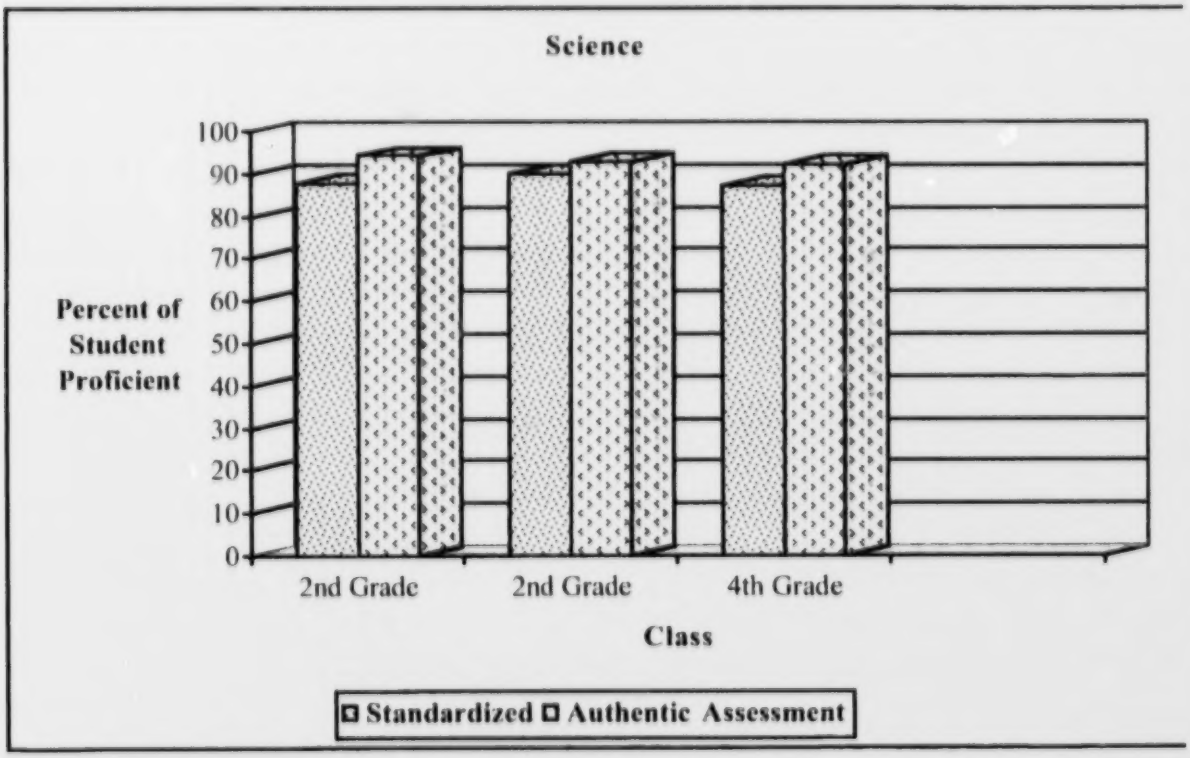

Figure 1. A comparison of authentic assessment science activities and standardized tests.

The interventions within the science curriculum showed increased understanding of the material presented.

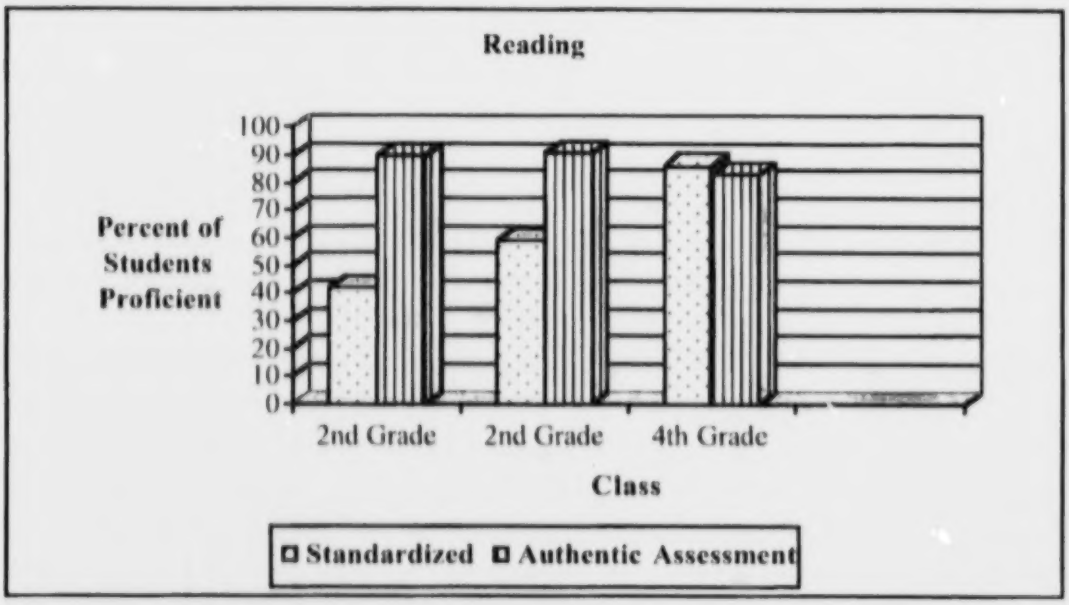

Figure 2. A comparison of authentic assessment reading activities and standardized tests. The interventions appear to have had a positive effect on both second grade classes. This may be attributed to the use of story maps, Venn-diagrams, KWLs, T-charts, vocabulary activities, and cooperative group projects.

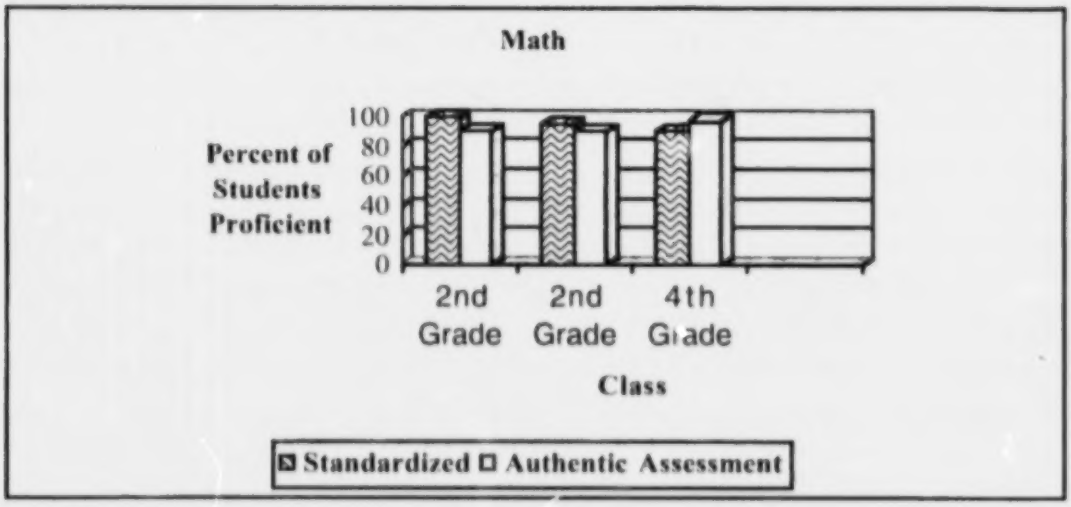

Figure 3. A comparison of authentic assessment math activities and standardized tests.

Figure 3 indicates an increase in the fourth grade class that can be attributed to the use of performance tasks that were used to enhance standardized tests. However, in the two second grade classes the use of performance tasks did not have any significant impact on performance.

The performance tasks were evaluated through the use of rubrics and anecdotal records. The use of these tools provided a realistic picture of the student s achievement. Anecdotal records were kept to monitor the student s progress. A point system was used with the checklist and transferred into our district s grading scale. The use of rubrics and anecdotal records provided the students with more an individual and comprehensive evaluation. In turn the student was provided with a detailed report of his performance. This allowed the student to take ownership in improving his performance.

Conclusions and Recommendations

Throughout the 16-week implementation of authentic assessment activities we observed a consistent increase in knowledge learned and retained. We believe that this

was directly related to the increase in real-life assessment situations. The children were not inhibited in ways they could present knowledge learned. When given a task, students immediately processed information and were excited on alternative ways to demonstrate what they knew.

Authentic assessment tools and activities began to create more independence, which assisted the students in developing their own learning. We noticed a greater retention, identification, and use of vocabulary within content areas. We observed the students discussing the subject areas out of context and using vocabulary throughout the day in other areas. For example, in the second grade social studies unit on producers and consumers at the beginning of the day the students would be concerned with what they were going to produce that day. After the completion of a unit on graphing students consistently used the term data when referring to the collection of information. Fourth graders were studying body systems and specific names of bones. During a writing lesson, one student commented that his cranium hurt from thinking so much.

As a result of these activities we observed an increase in the students recognition of content in other curriculum areas. We witnessed an increase of transfer of material from subject to subject. Students demonstrated abilities that in previous years we would have not expected them to display. The students had a better internalization of information, which they were able to manipulate and perform better on traditional tests. Students took more ownership of their learning, which allowed the teacher to become a facilitator, rather than the traditional lecturer.

It is our belief that authentic assessment enhanced the students ability to do well on standardized testing. Performance tasks were completed before standardized tests

were given. The performance tasks involved hands-on activities, which incorporated a variety of skills. The students were then able to apply those skills to standardized tests.

We found that through the teaching of cooperative learning activities the establishment of a classroom community was an important factor. As students got to know each other they felt respected and were able to express themselves without threat. Students were comfortable working together in groups of varied abilities and gender. This led to the flourishing of creativity throughout the classroom.

The role of the classroom teacher changed from lecturer to facilitator. Less time was spent on direct instruction and more time on self-exploration. Spending more time in discussion with their peers prompted students to see how subjects were integrated. The students were more open in expressing their ideas. Student s academic ability had little to do with their ability to participate in a group. During small group activities all students, even those that shied away from whole group discussions, were able to contribute.

The creation of rubrics for grading the authentic tasks seemed overwhelming. As we developed a comfort level in creating rubrics we realized how beneficial and easy rubrics actually were. The grading was more consistent with the students knowing the expectations for the assignment. The students took ownership in the creation of the rubrics. There was very little controversy over grades from students or parents.

Authentic assessment has demonstrated to be a valuable tool to us. Although it is time-consuming to get started, it has demonstrated to us to be the most beneficial way to assess students. Authentic assessment allows a child to demonstrate mastery of curriculum in a technique of the child s choosing. Authentic assessment provides

teachers with day-to-day information about students achievement that is necessary to make vital instructional decisions.

> In the global economy of the 21st century, students will need to understand the basics, but also to think critically, to analyze, and to make inferences. Helping students develop these skills will require changes in assessment at the school and classroom level, as well as new approaches to large-scale, high-stakes assessment. (NCREL, 1994)

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APPENDIX A
Teacher Survey

Dear Friends,

Please take a few minutes to honestly answer the following questions about Authentic Assessment. We re trying to determine the extent of your knowledge and comfort level regarding Authentic Assessment for our Master s Research Project.

Thank you for you cooperation!
Amy, Ronda, & Monica

PLEASE RETURN TO AMY S MAILBOX BY FRIDAY, 2/8/02! ☺

1. What does Authentic Assessment mean to you? (Please be specific)

Using a scale from 1 to 5 where 1 means not at all comfortable and 5 is extremely comfortable , please rate your comfort level.

As a classroom teacher, I feel comfortable

2. in using Authentic Assessment in your classroom 1 2 3 4 5
3. giving grades using Authentic Assessment 1 2 3 4 5
4. using rubrics 1 2 3 4 5
5. designing rubrics 1 2 3 4 5
6. assigning projects 1 2 3 4 5
7. using portfolios 1 2 3 4 5

9. If you are using Authentic Assessment how are you implementing it in your classroom?

Comments:

More information needed? (Be specific)

APPENDIX B

Rubric Template

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	

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Rubric for Vocabulary Sentences

	4	3	2	1
Capitals and punctuation	All of the time	1 or 2 mistakes	3 or 4 mistakes	5 or more mistakes
Complete sentences that make sense	All of the time	Most of the time	Half of the time	Forgot
Correct spelling	0-3 mistakes	4 or 5 mistakes	6 or 7 mistakes	8 or more mistakes
Neatness	All of the time	Most of the time	Half of the time	Forgot

A=15 or 16
B=14
C=12 or 13
D=11
F=10 or less

Total Score _____

Rubric for Food Group Sentences

	4	3	2	1
Complete sentences	Always	Most of the time	Half of the time	Forgot
Spelling	0-5 mistakes	6-10 mistakes	11-15 mistakes	16 or more
Capitals and punctuation	0-3 mistakes	4-6 mistakes	7-9 mistakes	10 or more mistakes
Correct information	5 sentences are correct	4 sentences are correct	3 sentences or correct	2 or less mistakes
Neatness	Always	Most of the time	Half of the time	Forgot

A=19 or 20
B=17 or 18
C=15 or 16
D=13 or 14
F=12 or less

Total Score _____

Rubric for Food Group Map Mind

	4	3	2	1
Complete sentences	Always	Most of the time	Half of the time	Forgot
Spelling	0-5 mistakes	6-10 mistakes	11-15 mistakes	16 or more mistakes
Capitals and punctuation	0-3 mistakes	4-6 mistakes	7-9 mistakes	10 or more mistakes
Correct information	5 sentences are correct	4 sentences are correct	3 sentences are correct	2 or less sentences are correct
Neatness	Always	Most of the time	Half of the time	Forgot

A=12
B=11
C=10
D=9
F=8 or less

Total Score_____

APPENDIX C

Checklist for Math Facts

Student Name	0	1	2	3	4	5	6	7	8	9	10	11	12
Atif													
Catherine													
Chris													
Alejandra													
Oly													
Jeremy													
Christina													
Melissa													
Tonya													
Alex													
Rebecca													
Marrissa													
Brittnay													
Nick													
Adrienne													
Katie													
Ashley													
Matt													
Taylor													
Shannon													
Sava													
Bryan													
Samantha													
David													
Christian													
Irn													
Drew													
Mike													
Jasper													
Ewan													

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APPENDIX D

T — Chart for Non-renewable Resources and Renewable Resources

Non-renewable Resources	Renewable Resources
Definition:	Definition:
Examples from Book: 1. 2. 3. 4. 5.	Examples from Book: 1. 2. 3. 4. 5.
My Own Examples: 1. 2. 3. 4. 5.	My own Examples: 1. 2. 3. 4. 5.

APPENDIX E
Math Graphing Venn-diagram

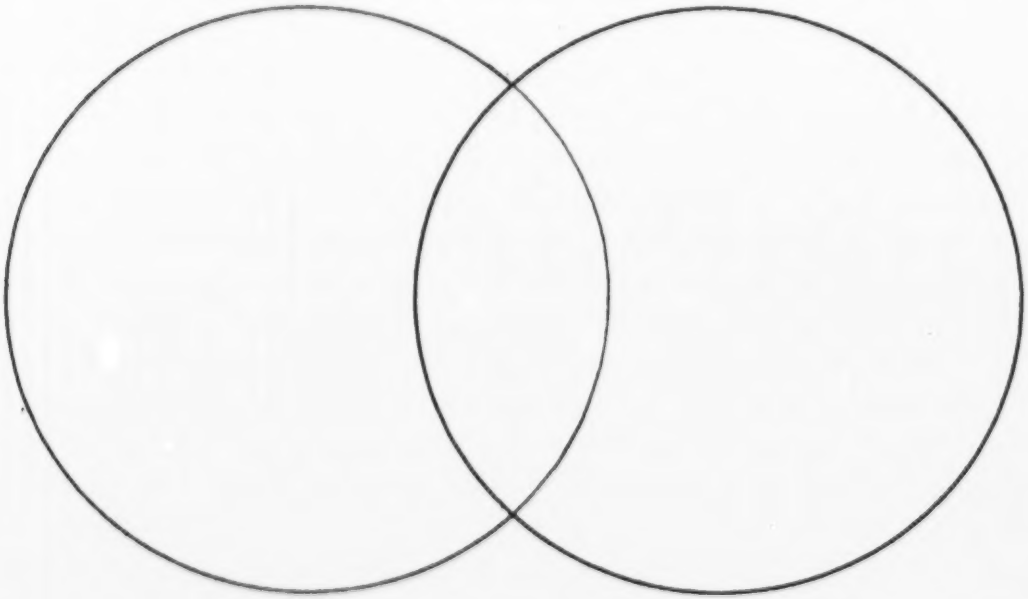
Name _____ Date _____

Point Chart: **8 pts. = A** **Total Points _____**
7 pts. = B
6 pts. = C
5 pts. = D
4 pts. = F

Directions: Compare and Contrast two out of the five graphs / plots in the box. **Each correct comparison or difference is worth 1 point. You must have 3 points for each.**

Pictograph	Bar Graph	Line Graph
Line Plot	Stem-and-Leaf Plot	

Differences Same Differences **(1 point each)**



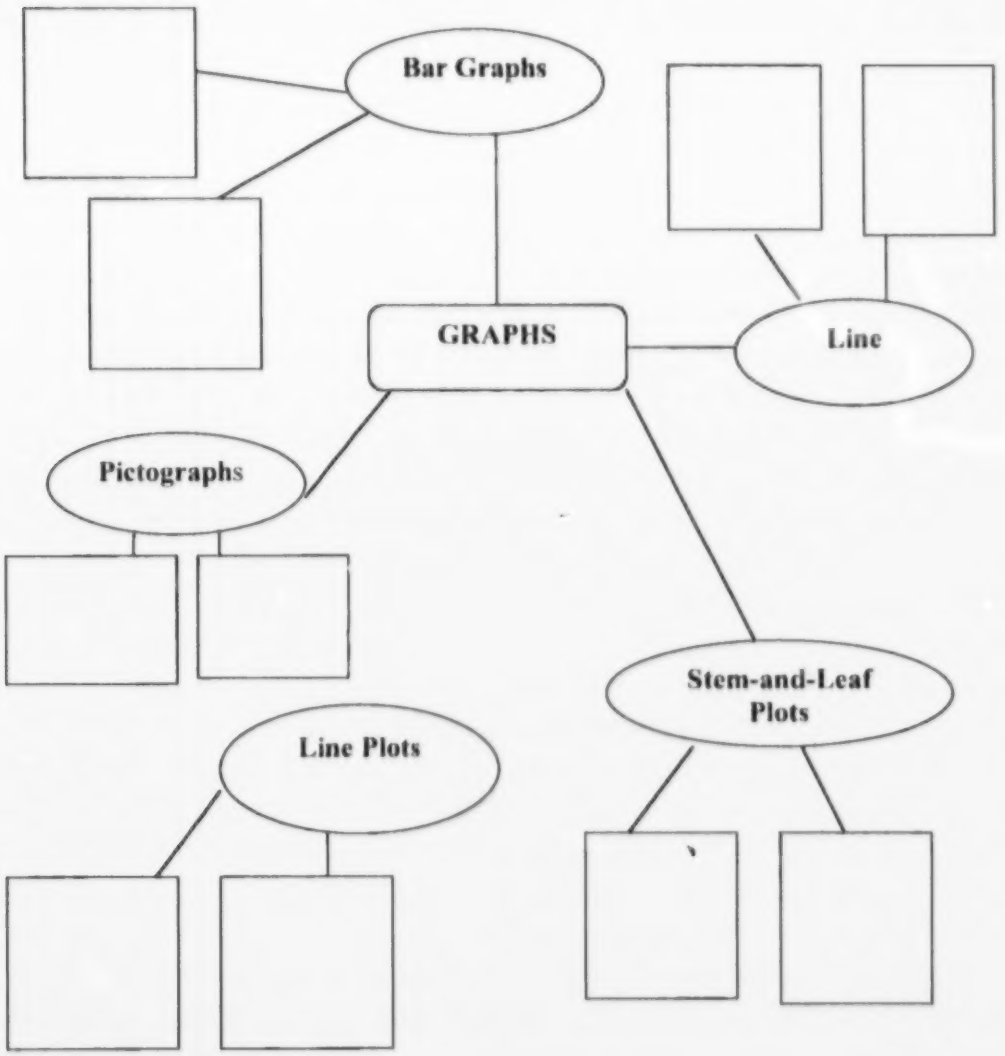
Write 2-3 sentences describing what you wrote above. **(5 points)**

Graph Mind Map

Name _____ Date _____

Mind Map

Directions: Complete the mind map with information you know about each type of graph or plot.



Animal Attribute Sort

Name _____

A: 100-92 B: 91-83 C: 82-74 D: 73-65 F: 64 and less

Each correct answer is worth 4 points.

Cut out the attached animal category attribute boxes, and glue them under the correct category heading. You should have one of each number in each column.

Amphibians	**Birds**	**Mammals**	**Fish**	**Reptiles**

Animal Attributes

1. hatches from an egg	1. hatches from an egg	1. hatches from an egg	1. hatches from an egg	1. babies are born
2. smooth, moist skin	2. covered with scales	2. feathers	2. fur or hair	2. dry, rough, scaly skin
3. cold-blooded	3. cold-blooded	3. cold-blooded	3. warm-blooded	3. warm-blooded
4. mothers nurse their young	4. lives in the water	4. lives part of its life in the water and part out of the water	4. has two wings, but not all can fly	4. their skin keeps water in their bodies for a long time
5. changes form as they grow to adults	5. has beaks or bills	5. parents give long care to their young	5. breathes through gills	5. may shed its skin

APPENDIX F
Four-dimensional Vocabulary Study

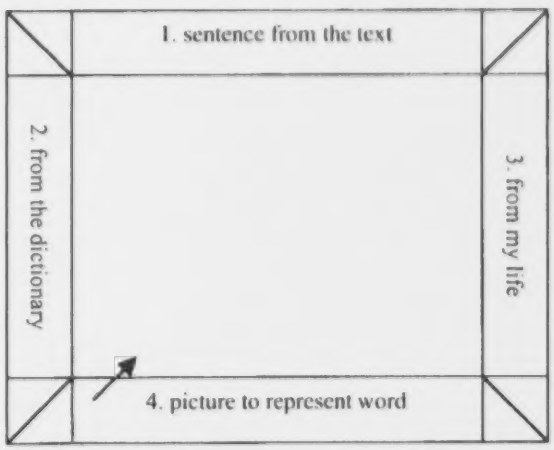
Name _____

1. Copy a sentence from your book that contains the vocabulary word. Underline the vocabulary word. 2. Use the dictionary to write the definition of the vocabulary word. 3. Write your own sentence using the vocabulary word. 4. Draw a picture or symbol to show the vocabulary word.

Vocabulary Word: _____

1. _____

_____



2. _____

_____

3. _____

_____

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